

Bolts and Screws: Differences and when to use each one



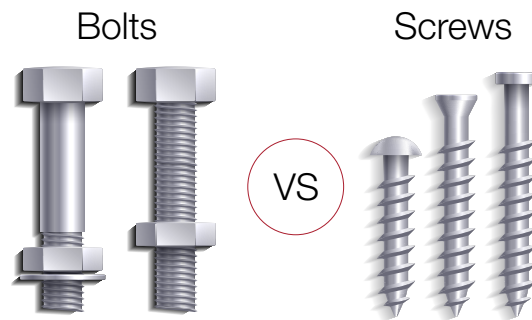
Bolts and screws are the most common fasteners used in manufacturing and construction industries.

Both have the same key application: to fasten fixtures or components to a base material. While they can often be mistaken for each other, there are some key differences.

Differences in appearance

The biggest difference you will notice is that bolts are used together with nuts and washers to assemble a component, whereas screws are used on their own. Screws are also smaller on average, with finer threads and tapered or sharp ends. Bolts are longer and not tapered at the ends.

The second most noticeable difference is how differently shaped the heads of bolts and screws are. Bolt heads often have hexagonal shaped heads with flat edges. These flat edges are there, because bolts require wrenches to secure them. Screwheads can be rounder and have grooves or slots at the top to engage a screwdriver.



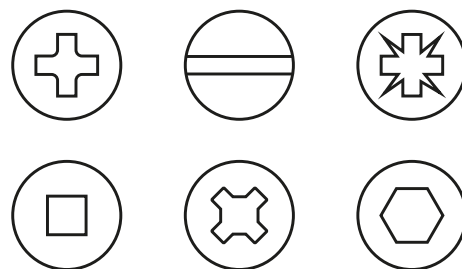
The slots on the screwhead will correspond to the type of screwdriver needed to secure them, as shown in the illustration below. E.g. a Phillips screw will need a Phillips screwdriver.

Differences in applications

Because bolts are often used with nuts and washers, they do not always require a threaded hole. Screws do require a threaded hole, which can be achieved by tapping a drilled hole separately or using special screws called self-tapping screws that create their own thread.

In the construction industry, bolts are often used for heavy duty applications that sometimes have set requirements for tightening torques and high clamping forces.

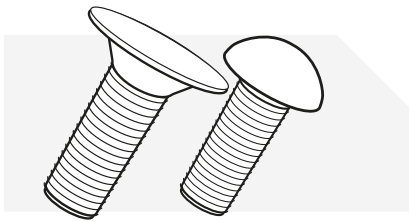
As they are larger, they have better holding strength than screws. The dimensions and loads of bolts have to adhere to international standards.



Bolts are used in materials such as concrete, heavy steel structures like bridges and beams. Screws can be used in more lightweight applications and materials such as sheet metal, drywall and plywood.

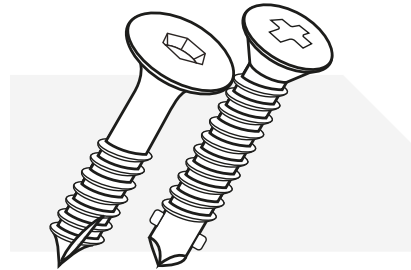
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Different types of screws



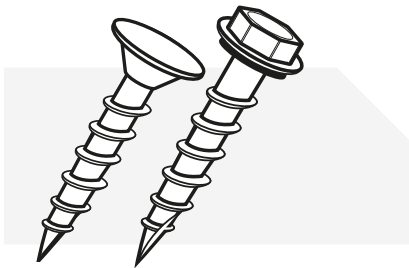
Machine screws

Small screws with very fine threads that are used to assemble small components in machinery. As the parts are small, they require screws with finer, more precise threads like machine screws. They do not have tapered ends like other screws and come in a variety of head types such as hex head, oval and flat head.



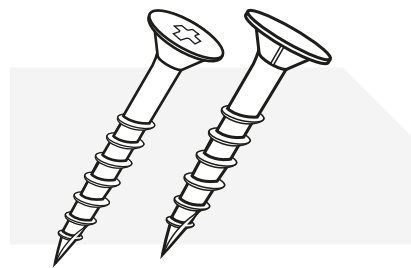
Self drilling screws

Screws whose ends are shaped like a drill bit. They are able to drill their own hole as they are driven into the base material. They are often used for light metals like steel and aluminum where drilling a hole may be inconvenient. A self drilling screw can typically be identified by its point and flute (notch) tip.



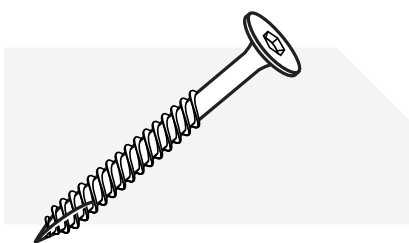
Self tapping screws

Screws with sharp threads and a sharp, pointed end. These are designed to cut threads into the material they are driven into. They are often used for wood, where it is difficult to create threads. There are many different types of points that a self-tapping screw can have that assist in the tapping of threads into your base material.



Particle board screws

Screws with coarse threads that are similar to drywall screws but specifically designed for use in dense woods, such as chipboard and particle board due to their aggressive thread that allows them to grab and hold the wood stock. They are used to attach hardware, hinges, and other objects to wood.

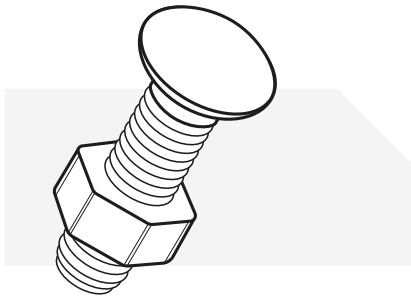


Steel framing screw

Screws with a very long body and closely spaced threads, and are specifically designed to be used in steel framing.

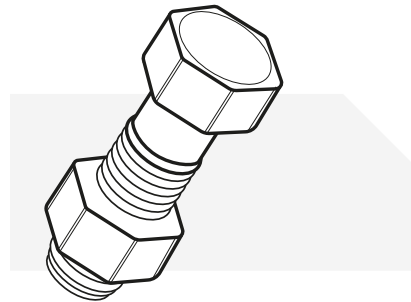


To find out more about other types of screws stocked by Milsons, check out our resource on Milsons Screws.



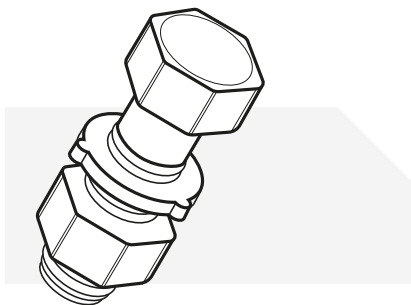
Coach bolts

Small bolts with a dome-shaped head that are used to fasten metal pieces to wood.



Hex bolts

These are the most common types of bolts used in industry. These are bolts with a flat hexagonal shaped head that are used with hex nuts and washers to fasten metal components to a base material. A spanner is applied across the flat ends of the hex head and tightened to secure it. These bolts have standard dimensions that adhere to international standards.



HSFG Bolts

High Strength Friction Grip bolts are specifically designed for heavy duty applications such as in bridges and construction. They have very high clamping loads and unlike ordinary hex bolts, they are used in permanent connections.



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